

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS, REPEALING ORDINANCE NOS. 14-04-24, 14-06-32 AND 14-09-50; ADOPTING A NEW WATER MANAGEMENT PLAN TO PROMOTE THE EFFICIENT USE OF WATER AND IMPLEMENTING A DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN; PROVIDING FOR ENFORCEMENT, PENALTIES AND DISCONNECTION OF IRRIGATION AND/OR OTHER WATER SERVICE FOR NONCOMPLIANCE; ESTABLISHING PROCEDURES FOR GRANTING VARIANCES; REQUIRING THE FILING OF THIS ORDINANCE AND PLAN WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY; PROVIDING A SAVINGS/REPEALING CLAUSE, SEVERABILITY CLAUSE, PENALTY CLAUSE AND AN EFFECTIVE DATE; AND PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF.

WHEREAS, the City Council of the City of Frisco, Texas ("City Council") recognizes that the amount of water available to the water customers of the City of Frisco, Texas ("Frisco" or "City") is limited; and

WHEREAS, the City Council recognizes the importance of a viable, long-term water supply for all City water customers; and

WHEREAS, the City Council recognizes that it cannot guarantee an uninterrupted water supply for all purposes at all times because of natural limitations, drought conditions, system failures and other acts of God which may occur; and

WHEREAS, the Texas Water Code and the regulations of the Texas Commission on Environmental Quality ("TCEQ") require that the City Council adopt a Water Management Plan for the City that includes a drought contingency and water emergency response plan; and

WHEREAS, the City Council is authorized to adopt ordinances as necessary to preserve and conserve the City's water resources pursuant to Chapter 54 of the Texas Local Government Code; and

WHEREAS, the City Council previously adopted Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50, which implemented and amended a Water Management Plan for the City in accordance with the Texas Water Code, TCEQ regulations and Chapter 54 of the Texas Local Government Code; and

WHEREAS, the City Council has investigated and determined that it would be advantageous and beneficial to the citizens of Frisco to repeal Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50, in their entirety, and replace them with this Ordinance; and

WHEREAS, the City Council has determined that it is an urgent need and in the best interest of the public to adopt a new Water Management Plan; and

WHEREAS, the City Council desires to support the North Texas Municipal Water District ("NTMWD") by adopting the new Water Management Plan as official City policy for water management; and

WHEREAS, the City Council has investigated and determined that it would be advantageous and beneficial to the citizens of the City to adopt the Water Management Plan as set forth below.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS:

SECTION 1. Findings Incorporated. The findings set forth above are incorporated into the body of this Ordinance as if fully set forth herein.

SECTION 2. Repeal of Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50. Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50 are hereby repealed, in their entirety, and replaced by this Ordinance. The effective date of the repeal of Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50 shall not occur until the effective date of this Ordinance, at which time Ordinance Nos. 14-04-24, 14-06-32 and 14-09-50 shall be repealed. Such repeal shall not abate any pending prosecution and/or lawsuit or prevent any prosecution and/or lawsuit from being commenced for any violation of Ordinance Nos. 14-04-24, 14-06-32 and/or 14-09-50 occurring before the effective date of this Ordinance.

SECTION 3. Water Management Plan Adopted. The City Council hereby approves and adopts the Water Management Plan attached hereto as Exhibit A and incorporated herein by reference for all purposes. The City commits to implementing the requirements and procedures set forth in the adopted Water Management Plan.

SECTION 4. Filing of Ordinance and Plan with the TCEQ. The City Manager or his designee is hereby directed to file copies of the Water Management Plan and this Ordinance with the TCEQ in accordance with Title 30, Chapter 288 of the Texas Administrative Code.

SECTION 5. Savings/Repealing. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict, but such repeal shall not abate any pending prosecution for violation of the repealed ordinances, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinances. Any remaining portions of said ordinances shall remain in full force and effect.

SECTION 6. Severability. Should any section, subsection, sentence, clause or phrase of this Ordinance be declared unconstitutional and/or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. Frisco hereby declares that it would have passed this Ordinance, and each section, subsection, clause and phrase thereof regardless of whether any one or more sections, subsections, sentences, clauses or phrases may be declared unconstitutional and/or invalid.

SECTION 7. Penalty. Any customer, defined under 30 Texas Administrative Code Chapter 291, failing to comply with the provisions of the Water Management Plan shall be subject to a fine of up to two thousand dollars and 00/100 dollars (\$2,000.00) per day per occurrence and/or discontinuance of irrigation or water service by the City. Proof of a culpable mental state is not required for a conviction of an offense under this section. Each day a customer fails to comply with the Water Management Plan is a separate violation. The City's authority to seek injunctive or other civil relief available under the law is not limited by this section.

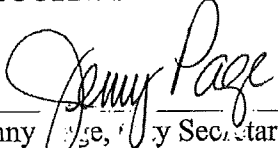
SECTION 8. Effective Date. This Ordinance shall become effective from and after its adoption and publication as required by the City Charter and by law.

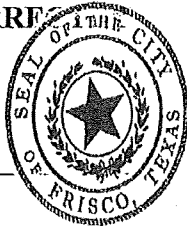
DULY PASSED AND APPROVED BY THE CITY COUNCIL OF THE CITY OF FRISCO, TEXAS on this 21st day of April, 2015.




Maher Maso, Mayor

ATTESTED TO AND CORRECTED
RECORDED BY:


Jenny Page, City Secretary



APPROVED AS TO FORM:


Abemathy, Roeder, Boyd & Hullett, P.C.
Ryan D. Pittman, City Attorneys

Dates of Publication: April 24 & May 1, 2015, Frisco Enterprise

Exhibit A

City of Frisco

Water Management Plan

TABLE OF CONTENTS

1.	INTRODUCTION AND OBJECTIVES	1-3
2.	TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES.....	2-1
2.1	Conservation Plans.....	2-1
2.2	Drought Contingency Plans	2-2
3.	WATER UTILITY PROFILE.....	3-1
4.	SPECIFICATION OF WATER CONSERVATION GOALS	4-1
5.	METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR	5-1
5.1	Accurate Metering of Treated Water Deliveries from NTMWD	5-1
5.2	Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement.....	5-1
5.3	Record Management System	5-1
5.4	Determination and Control of Unaccounted Water	5-1
5.5	Leak Detection and Repair.....	5-2
5.6	Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report.....	5-2
5.7	Water Conservation Implementation Report	5-2
6.	CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN	6-1
7.	WATER RATE STRUCTURE.....	7-1
8.	OTHER WATER CONSERVATION MEASURES	8-1
8.1	NTMWD System Operation Plan	8-1
8.2	Reuse and Recycling of Wastewater.....	8-1
8.3	Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures.....	8-1
8.4	Landscape Water Management Measures	8-1
8.5	Rebates and Other Water Use Efficiency Programs	8-2
8.6	Requirement for Water Conservation Plans by Wholesale Customers	8-3
8.7	Coordination with Regional Water Planning Group and NTMWD	8-3

9.	IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN.....	9-1
10.	REVIEW AND UPDATE OF WATER CONSERVATION PLAN.....	10-1
11.	DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN.....	11-1
11.1	Introduction.....	11-1
11.2	State Requirements for Drought Contingency and Water Emergency Response Plans.....	11-1
11.3	Provisions to Inform the Public and Opportunity for Public Input.....	11-2
11.4	Provisions for Continuing Public Education and Information.....	11-2
11.5	Initiation and Termination of Drought or Water Emergency Response Stages	11-3
11.6	Drought Contingency and Water Emergency Response Stages and Measures	11-4
11.7	Procedures for Granting Variances to the Plan.....	11-13
11.8	Procedures for Enforcing Mandatory Water Use Restrictions	11-14
11.9	Coordination with the Regional Water Planning Groups	11-16
11.10	Review and Update of Drought Contingency and Water Emergency Response Plan	11-16

EXHIBIT B WEEKLY WATERING DAY LOCATION MAP (corresponds with residential trash day locations)

APPENDICES

APPENDIX A	List of References
APPENDIX B	Texas Commission on Environmental Quality Rules on Municipal Water Conservation and Drought Contingency Plans
	<ul style="list-style-type: none"> • Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.1 – Definitions (Page B-1) • Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter A, Rule §288.2 – Water Conservation Plans for Municipal Uses by Public Water Suppliers (Page B-4) • Texas Administrative Code Title 30, Part 1, Chapter 288, Subchapter B, Rule §288.20 – Drought Contingency Plans for Municipal Uses by Public Water Suppliers (Page B-7)
APPENDIX C	TCEQ Water Utility Profile
APPENDIX D	NTMWD Member City and Customer Annual Water Conservation Report
APPENDIX E	Landscape Water Management Regulations
APPENDIX F	Rebates and Other Water Use Efficiency Programs
APPENDIX G	TCEQ Water Conservation Implementation Report

Water Management Plan

Updated April 2015

1. INTRODUCTION AND OBJECTIVES

Water supply has always been a key issue in the development of Texas. In recent years, the growing population and economic development of North Central Texas has led to increasing demands for water supplies. At the same time, local and less expensive sources of water supply are largely developed. Additional supplies to meet higher demands will be expensive and difficult to develop. It is therefore important that NTMWD and its Member Cities and Customers make the most efficient use of existing supplies. This will delay the need for new supplies, minimize the environmental impacts associated with developing new supplies, and delay the high cost of additional water supply development.

Recognizing the need for efficient use of existing water supplies, the Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing the development of water conservation and drought contingency plans for public water suppliers.^{1, 2} TCEQ guidelines and requirements are included in Appendix B. The best management practices established by the Water Conservation Implementation Task Force³, established pursuant to SB1094 by the 78th Legislature, were also considered in the development of the water conservation measures. This Water Management Plan for the City of Frisco was developed in concert with the NTMWD's water conservation, and drought contingency and water emergency response plan.⁴

The water conservation sections of this plan are incorporated into a year-round water efficiency plan and include measures that are intended to result in ongoing, long-term water savings. An emergency response plan is also included for the Frisco water distribution system. The NTMWD drought contingency and water emergency response sections of this plan address strategies designed to temporarily reduce water use in response to specific conditions.

The objectives of this water management plan are as follows:

- To reduce water consumption from the levels that would prevail without conservation efforts.
- To reduce the loss and waste of water.
- To improve efficiency in the use of water.

¹ Superscripted numbers match references listed in Appendix A.

- To extend the life of current water supplies by reducing the rate of growth in demand.
- To document the level of recycling and reuse in the water supply.

In order to adopt this plan, the City of Frisco will need to do the following:

- Complete the water utility profile (provided in Appendix C).
- Complete the annual water conservation implementation report.
- Set five-year and ten-year goals for per capita water use.
- Adopt an ordinance approving the plan.

This plan includes all of the elements required by TCEQ. Some elements of this plan go beyond TCEQ requirements. Any member of the NTMWD wishing to adjust elements of their individual plan should coordinate with NTMWD. The final adopted version of this Water Management Plan including appendices, and ordinance will be provided to NTMWD, as well as TCEQ.

2. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY RULES

2.1 Conservation Plans

The TCEQ rules governing development of water conservation plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code, which is included in Appendix B. For the purpose of these rules, a water conservation plan is defined as “A strategy or combination of strategies for reducing the volume of water withdrawn from a water supply source, for reducing the loss or waste of water, for maintaining or improving the efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water.”¹ The elements in the TCEQ water conservation rules covered in this conservation plan are listed below.

Minimum Conservation Plan Requirements

The minimum requirements in the Texas Administrative Code for Water Conservation Plans for Public Water Suppliers are covered in this report as follows:

- 288.2(a)(1)(A) – Utility Profile – Section 3 and Appendix C
- 288.2(a)(1)(B) – Specification of Goals – Section 4
- 288.2(a)(1)(C) – Specific, Quantified Goals – Section 4
- 288.2(a)(1)(D) – Accurate Metering – Sections 5.1 and 5.2
- 288.2(a)(1)(E) – Universal Metering – Section 5.2
- 288.2(a)(1)(F) – Determination and Control of Unaccounted Water – Section 5.4
- 288.2(a)(1)(G) – Public Education and Information Program – Section 6
- 288.2(a)(1)(H) – Non-Promotional Water Rate Structure – Section 7
- 288.2(a)(1)(I) – Reservoir System Operation Plan – Section 8.1
- 288.2(a)(1)(J) – Means of Implementation and Enforcement – Section 9
- 288.2(a)(1)(K) – Coordination with Regional Water Planning Group – Section 8.7
- 288.2(c) – Review and Update of Plan – Section 10

Conservation Additional Requirements (Population over 5,000)

The Texas Administrative Code includes additional requirements for water conservation plans for drinking water supplies serving a population over 5,000:

- 288.2(a)(2)(A) – Leak Detection, Repair, and Water Loss Accounting – Sections 5.4, 5.5, and 5.6
- 288.2(a)(2)(B) – Record Management System – Section 5.3
- 288.2(a)(2)(C) – Requirement for Water Conservation Plans by Wholesale Customers – Section 8.6

Additional Conservation Strategies

The TCEQ requires that a water conservation implementation report be completed and submitted on an annual basis.

In addition to the TCEQ required water conservation strategies, the NTMWD also requires the following strategy to be included in the Member City and Customer plans:

- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.4 and Appendix E

TCEQ rules also include optional, but not required, conservation strategies, which may be adopted by suppliers. The NTMWD recommends that the following strategies be included in the Member City and Customer water conservation plans:

- 288.2(a)(3)(A) – Conservation Oriented Water Rates – Section 7
- 288.2(a)(3)(B) – Ordinances, Plumbing Codes or Rules on Water-Conserving Fixtures – Section 8.3
- 288.2(a)(3)(C) – Replacement or Retrofit of Water-Conserving Plumbing Fixtures – Section 8.5
- 288.2(a)(3)(D) – Reuse and Recycling of Wastewater – Section 8.2
- 288.2(a)(3)(F) – Considerations for Landscape Water Management Regulations – Section 8.5 and Appendix E
- 288.2(a)(3)(G) – Monitoring Method – Section 5.6
- 288.2(a)(3)(H) – Additional Conservation Ordinance Provisions – Section 8.5

2.2 Drought Contingency Plans

The TCEQ rules governing development of drought contingency plans for public water suppliers are contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code, a current copy of which is included in Appendix B. For the purpose of these rules, a drought contingency and water emergency response plan is defined as “a strategy or combination of strategies for temporary supply and demand management responses to temporary and potentially recurring water supply shortages and other water supply emergencies.”²

3. WATER UTILITY PROFILE

Appendix C to this water management plan is a water utility profile based on the format recommended by the TCEQ. In adopting this plan, the City of Frisco will provide a final water utility profile to NTMWD.

4. SPECIFICATION OF WATER CONSERVATION GOALS

TCEQ rules require the adoption of specific water conservation goals for a water conservation plan. As part of plan adoption, the City of Frisco must develop 5-year and 10-year goals for per capita municipal use. These goals should be submitted to NTMWD. The goals for this water management plan include the following:

- Maintain the per capita municipal water use below the specified amount in gallons per capita per day in a dry year, as shown in the completed Table 4.1.
- Maintain the level of unaccounted water in the system below 12 percent annually in 2014 and subsequent years, as discussed in Section 5.4.
- Implement and maintain a program of universal metering and meter replacement and repair, as discussed in Section 5.2
- Decrease waste in lawn irrigation by implementation and enforcement of landscape water management regulations, as discussed in Section 8.4 and Appendix E.
- Increase efficient water usage as discussed in Section 8.5.
- Raise public awareness of water conservation and encourage responsible public behavior by a public education and information program, as discussed in Section 6.
- Develop a system specific strategy to conserve water during peak demands, thereby reducing the peak use.

Table 4.1
Five-Year and Ten-Year Municipal Per Capita Water Use Goals (gpcd)

Description	Current Average (gpcd)	2019 Goal (gpcd)	2024 Goal (gpcd)
Current 5-Year Avg. Per Capita Municipal Use	215	-	-
Current 5-Year Avg. Residential Per Capita Use	135	128	122
Current 5-Year Avg. Water Loss (GPCD)	14	-	-
Current 5-Year Avg. Water Loss (%)	6.9%	-	-
Projected Reduction Due to Elements in this Plan	-	11	21
Water Conservation Goals - Projects a 1% reduction per year	-	204	194

5. METERING, WATER USE RECORDS, CONTROL OF UNACCOUNTED WATER, AND LEAK DETECTION AND REPAIR

One of the key elements of water conservation is tracking water use and controlling losses through illegal diversions and leaks. It is important to carefully meter water use, detect and repair leaks in the distribution system and provide regular monitoring of unaccounted water.

5.1 Accurate Metering of Treated Water Deliveries from NTMWD

Water deliveries from NTMWD are metered by NTMWD using meters with accuracy of $\pm 2\%$. These meters are calibrated on a monthly basis by NTMWD to maintain the required accuracy.

5.2 Metering of Customer and Public Uses and Meter Testing, Repair, and Replacement

The provision of water to all customers, including public and governmental users, should be metered. In many cases, Member Cities and Customers already meter retail and wholesale water users. For those Member Cities and Customers who do not currently meter all internal water uses, as well as all subsequent users, these entities should implement a program to meter all water uses within the next three years.

Most Member Cities and Customers test and replace their customer meters on a regular basis. All customer meters should be replaced on a minimum of a 15-year cycle. Those who do not currently have a meter testing and replacement program should implement such a program over the next three years.

5.3 Record Management System

As required by TAC Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2(a)(2)(B), a record management system should allow for the separation of water sales and uses into residential, commercial, public/institutional, and industrial categories. This information should be included in an annual water conservation report, as described in Section 5.6 below. Those entities whose record management systems do not currently comply with this requirement should move to implement such a system within the next five years.

5.4 Determination and Control of Unaccounted Water

Unaccounted water is the difference between water delivered to Member Cities and Customers from NTMWD (and other supplies, if applicable) and metered water sales to customers plus authorized but unmetered uses. (Authorized but unmetered uses would include use for fire fighting, releases for flushing of lines, uses associated with new construction, etc.) Unaccounted water can include several categories:

- Inaccuracies in customer meters. (Customer meters tend to run more slowly as they age and under-report actual use.)
- Accounts which are being used but have not yet been added to the billing system.

- Losses due to water main breaks and leaks in the water distribution system.
- Losses due to illegal connections and theft. (Ordinance 05-05-41)
- Other.

Measures to control unaccounted water should be part of the routine operations of Member Cities and Customers. Maintenance crews and personnel should look for and report evidence of leaks in the water distribution system. A leak detection and repair program is described in Section 5.5 below. Meter readers should watch for and report signs of illegal connections, so they can be quickly addressed.

Unaccounted water should be calculated in accordance with the provisions of Appendix C. With the measures described in this plan, Member Cities and Customers should maintain unaccounted water below 12 percent in 2008 and subsequent years. If unaccounted water exceeds this goal, the Member City or Customer should implement a more intensive audit to determine the source(s) of and reduce the unaccounted water. The annual conservation report described below is the primary tool that should be used to monitor unaccounted water.

5.5 Leak Detection and Repair

As described above, city crews and personnel should look for and report evidence of leaks in the water distribution system. Areas of the water distribution system in which numerous leaks and line breaks occur should be targeted for replacement as funds are available.

5.6 Monitoring of Effectiveness and Efficiency - Annual Water Conservation Report

Appendix D is a form that should be used in the development of an annual water conservation report by Member Cities and Customers. This form should be completed by March 31 of the following year and used to monitor the effectiveness and efficiency of the water conservation program and to plan conservation-related activities for the next year. The form records the water use by category, per capita municipal use, and unaccounted water for the current year and compares them to historical values. The annual water conservation report should be sent to NTMWD, which will monitor NTMWD Member Cities' and Customers' water conservation trends.

5.7 Water Conservation Implementation Report

The TCEQ-required water conservation implementation report (Appendix G) is due to the TCEQ by May 1 of every year, starting in the year 2010. This report lists the various water conservation strategies that have been implemented, including the date the strategy was implemented. The report also calls for the five-year and ten-year per capita water use goals from the previous water conservation plan. The reporting entity must answer whether or not these goals have been met and if not, why not. The amount of water saved is also requested.

6. CONTINUING PUBLIC EDUCATION AND INFORMATION CAMPAIGN

The continuing public education and information campaign on water conservation includes the following elements:

- The City of Frisco operates and maintains an evapotranspiration weather station and four automatic rain gauges that generates data used to provide weekly outdoor watering recommendations. These recommendations are available on the city website, through a weekly e-mail subscription service, and over a dedicated telephone line.
- Utilize the “Water IQ: Know Your Water” and other public education materials produced by the NTMWD
- Insert water conservation information with water bills. Inserts will include material developed by Member Cities’ and Customers’ staff and material obtained from the TWDB, the TCEQ, and other sources.
- Encourage local media coverage of water conservation issues and the importance of water conservation.
- Notify local organizations, schools, and civic groups that Member City or Customer staff and staff of the NTMWD are available to make presentations on the importance of water conservation and ways to save water.
- Leadership Frisco Class VI purchased a robot, Professor Waterwise, which is now available through City Staff for children’s presentations and other events.
- Promote the *Texas Smartscape* web site (www.txsmartscape.com) and provide water conservation brochures and other water conservation materials available to the public at City Hall and other public places.
- Make information on water conservation available on its website (if applicable) and include links to the “Water IQ: Know Your Water” website, *Texas Smartscape* website and to information on water conservation on the TWDB and TCEQ web sites and other resources.

7. WATER RATE STRUCTURE

Member Cities and Customers should adopt, if they have not already done so, an increasing block rate water structure that is intended to encourage water conservation and discourage excessive use and waste of water upon completion of the next rate study or within five years. Ordinance 15-04-15 (Water and Sewer Service Charges), provides an increasing block rate structure and lists the minimum charge and base charges for all tiers for the residential and commercial/industrial water rates. The City of Frisco water rate structure is as follows:

Residential Rates

1. Monthly minimum charge up to the first 2,000 gallons.
2. A second tier from 2,000 gallons to 15,000 gallons with a base charge per 1,000 gallons.
3. A third tier from 15,000 gallons to 25,000 gallons with an increased base charge per 1,000 gallons.
4. A fourth tier from 25,000 gallons to 40,000 gallons with an increased base charge per 1,000 gallons.
5. A fifth tier from 40,000 gallons to 80,000 gallons with an increased base charge per 1,000 gallons.
6. A sixth tier above 80,000 gallons with an additional increase in the base charge per 1,000 gallons.

Commercial/Industrial Rates

Commercial/industrial rates have an increased minimum charge up to the first 2,000 gallons as the size of the meter increases with a base charge per 1,000 gallons for usage from 2,000 gallons to 40,000 gallons for all meter sizes, and an increased based charge per 1,000 gallons for all irrigation meters above 40,000 gallons.

8. OTHER WATER CONSERVATION MEASURES

8.1 NTMWD System Operation Plan

Member Cities and Customers of NTMWD purchase treated water from NTMWD and do not have surface water supplies for which to implement a system operation plan. NTMWD's permits do allow some coordinated operation of its water supply sources, and NTMWD is seeking additional water rights for coordinated operation to optimize its available water supplies.

8.2 Reuse and Recycling of Wastewater

Most Member Cities and Customers do not own and operate their own wastewater treatment plants. Their wastewater is treated by NTMWD. NTMWD currently has the largest wastewater reuse program in the state. NTMWD has water rights allowing reuse of up to 71,882 acre-feet per year of this treated wastewater through Lake Lavon for municipal purposes. In addition, NTMWD has also developed the East Fork Raw Water Supply Project which can divert up to 157,393 acre-feet per year based on treated wastewater discharges by the NTMWD. When fully developed, these two reuse projects will provide up to 44 percent of the NTMWD's currently permitted water supplies. NTMWD also provides treated effluent from its wastewater treatment plants available for direct reuse for landscape irrigation and industrial use.

Those Member Cities and Customers who own and operate their own wastewater treatment plants should move toward reusing treated effluent for irrigation purposes at their plant site over the next three years. These entities should also seek other alternatives for reuse of recycled wastewater effluent.

8.3 Ordinances, Plumbing Codes, or Rules on Water-Conserving Fixtures

The state has required water-conserving fixtures in new construction and renovations since 1992. The state standards call for flows of no more than 2.5 gallons per minute (gpm) for faucets, 3.0 gpm for showerheads, and 1.6 gallons per flush for toilets. Similar standards are now required nationally under federal law. These state and federal standards assure that all new construction and renovations will use water-conserving fixtures. Optional rebate programs to encourage replacement of older fixtures with water conservation programs are discussed in Section 8.5.

8.4 Landscape Water Management Measures

Appendix E identifies the landscape water management regulations adopted as part of the Water Management Plan. These regulations are intended to minimize waste in landscape irrigation and include the requirements for rain/freeze sensors, pressure regulating devices, and smart controllers utilizing evapotranspiration (ET).

The following general basic water conservation measures are required by the NTMWD and the City of Frisco for this plan. These measures must be implemented and enforced in order to reduce water waste:

- Time of day restrictions prohibiting lawn irrigation watering from 10 AM to 6 PM during the Daylight Saving Time period of each year.
- Prohibition of watering of impervious surfaces. (Wind driven water drift will be taken into consideration.)
- Prohibition of outdoor watering during precipitation or freeze events.
- Lawn and landscape irrigation must conform to the best management practices for outdoor irrigation based on the City of Frisco weather station data and subsequent weekly watering recommendations as discussed in Section 9 of this plan.
- Prohibiting the use of treated water to fill or refill residential, amenity, and any other natural or manmade ponds. A pond is considered to be a still body of water with a surface area of 500 square feet or more.
- Rain and freeze sensors and/or smart controllers are required on all new irrigation systems. Rain and freeze sensors and/or smart controllers must be maintained to function properly.
- “At home” car washing can be done only when using a water hose with a shut-off nozzle.
- Prohibition of planting and/or watering areas that have been overseeded with cool season grasses (such as rye grass or other similar grasses) under certain conditions, except for golf courses, erosion protection, and public use areas related to public safety.

8.5 Rebates and Other Water Use Efficiency Programs

The City of Frisco offers rebates and other programs to encourage water use efficiency and to reduce water waste. Appendix F describes the available rebate programs with the procedures required to participate. The following list identifies rebate programs currently available and those under consideration:

- Currently Available:
 - Smart controllers utilizing Evapotranspiration (ET)
- Under Consideration:
 - Water Efficient Clothes Washers
 - Rain Barrels
 - High Efficient Toilets
 - Pressure Reducing Valves

- Low-Flow Shower Heads
- Rain/Freeze Sensors

The City of Frisco also has other existing and future programs designed to promote and encourage water use efficiency. These programs are also mentioned in Appendix F and include:

- Free Irrigation Check-up Program
- Frisco Website Weekly Irrigation Recommendations
- Frisco Weekly Newsletter Program
- Voluntary Weather Station Pledge Program
- Top Residential and Commercial User Programs
- Waterwise Car Wash Program
- Water upon Request Program for Restaurants.

The Comprehensive Zoning Ordinance of the City of Frisco also addresses water conservation. Article IV, Section 2 of the Comprehensive Zoning Ordinance (ZA6-0005) provides landscape requirements for new commercial development regarding landscape design standards, required irrigation plans, and approved plant materials focusing on drought tolerant design.

City of Frisco Ordinance No. 08-12-103 (Minimum Standards for Installation of Irrigation Systems), was also adopted to promote water conservation. This adoption was required to enforce HB 1656 in cities with a population of greater than 20,000. Provisions of this ordinance require plan submittal of new irrigation systems, installation inspection, and a final walk-through.

8.6 Requirement for Water Conservation Plans by Wholesale Customers

Every contract for the wholesale sale of water by Member Cities and/or Customers that is entered into, renewed, or extended after the adoption of this water management plan will include a requirement that the wholesale customer and any wholesale customers of that wholesale customer develop and implement a water conservation plan meeting the requirements of Title 30, Part 1, Chapter 288, Subchapter A, Rule 288.2 of the Texas Administrative Code.¹ The requirement will also extend to each successive wholesale customer in the resale of the water.

8.7 Coordination with Regional Water Planning Group and NTMWD

The City of Frisco will send a copy of this water management plan, the ordinance adopting the plan, and the water utility profile to the NTMWD and the Chair of the Region C Water Planning Group.

9. IMPLEMENTATION AND ENFORCEMENT OF THE WATER CONSERVATION PLAN

The Texas Commission on Environmental Quality (TCEQ) has developed guidelines and requirements governing water conservation plans and drought contingency plans for public water suppliers as defined in Title 30, Part 1, Chapter 288 of the Texas Administrative Code, and attached hereto as Appendix B.

This section of the Water Management Plan addresses water use from conservation and emergency response perspectives, and meets all TCEQ requirements. The City of Frisco will implement water conservation initiatives and emergency responses related to the ability to operate the water distribution system. The North Texas Municipal Water District will implement drought stages and emergency responses regarding water supply from the reservoirs, and are included in Section 11 of this Plan. The City of Frisco will be solely responsible for the enforcement of this Water Management Plan.

The water conservation initiatives in this section are divided into two separate plans: the annual Water Efficiency Plan and the Emergency Response Plan. The Water Efficiency Plan will be administered and enforced year round to reduce the annual waste of water. The Emergency Response Plan will be administered and enforced only during conditions that jeopardize the ability to deliver an adequate volume and pressure of water to Frisco customers.

The Water Efficiency Plan provides annual recommendations, requirements, and enforcement during Central Standard Time and Daylight Saving Time of each year. This plan is consistent and compatible with the NTMWD goals to achieve necessary water use reduction to promote the efficient use of water.

The City of Frisco owns and operates an evapotranspiration weather station and four automatic rain gauges. Using Texas A&M methodology, the data from this equipment is used to estimate weekly outdoor watering requirements for turf grass common to the North Texas region. This weekly data, available to all residents, is the basis of this annual Water Efficiency Plan's outdoor watering recommendations for the City of Frisco. This information is available on the city website, through a free weekly e-mail subscription service, and over the Frisco "Watering Line" by telephone.

The City of Frisco has established best management practices for outdoor irrigation throughout the year:

- The use of hose-end sprinklers and automatic sprinkler systems for turf grass irrigation is permitted if necessary once per week based on the regular residential trash day location,
- The use of hand-held hoses, soaker hoses, bubbler systems, and drip systems can be used on any day up to two hours per day for turf grass, trees, landscaping, and foundations as necessary,

- Only if twice per week watering is necessary based on the weekly watering recommendations, the use of hose-end sprinklers and automatic sprinkler systems is permitted for one additional day per week in addition to the regular watering day as follows:

Regular Watering Day	Additional Watering Day
Monday	Thursday
Tuesday	Saturday
Wednesday	Saturday
Thursday	Sunday
Friday	Tuesday

The recommendations, requirements, and enforcement of the annual Water Efficiency Plan are shown as follows:

CENTRAL STANDARD TIME (Fall and Winter)

Recommendations:

- Turn off automatic sprinkler systems and operate manually.
- Operate system based on weather station weekly recommendations.
- If necessary, outdoor watering is permitted from 10 am to 6 pm.
- Irrigation controllers should be adjusted for the time change.
- Replace the back-up battery in the irrigation controller.
- The selection and installation of drought tolerant plants is encouraged.
- Schedule a free irrigation check-up annually provided by the city.

Requirements:

- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40 F.
- No water runoff flowing away from property.
- The use of leaking or damaged irrigation systems is prohibited.
- Over seeding and watering of cool season grasses is prohibited.

Enforcement:

- Water waste can be reported by using the on-line water waste form, telephone, e-mail, or observed by city employees. Notification of violations can be provided by door-hangers, letters, e-mail, phone calls, etc.
- Violations will be documented by electronic photographs and filed for review annually.
- First-time violations will include a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up performed by city staff within 30 days.
- For additional violations, a \$100.00 fee for the second violation and a \$200.00 fee for the third violation will also be included on a water bill, followed by the issuance of a citation for each subsequent violation.

DAYLIGHT SAVING TIME (Spring and Summer)

Recommendations:

- Turn off automatic sprinkler systems and operate manually.
- Operate system based on weather station weekly recommendations.
- Irrigation controllers should be adjusted for the time change.
- Replace the back-up battery in the irrigation controller.
- The selection and installation of drought tolerant plants is encouraged.
- Schedule a free irrigation check-up annually provided by the city.

Requirements:

- No outdoor watering from 10 am to 6 pm daily.
- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40 F.
- No water runoff flowing away from property.
- The use of leaking or damaged irrigation systems is prohibited.
- Over seeding and watering of cool season grasses is prohibited.

Enforcement:

- Water waste can be reported by using the on-line water waste form, telephone, e-mail, or observed by city employees. Notification of violations can be provided by door-hangers, letters, e-mail, phone calls, etc.
- Violations will be documented by electronic photographs and filed for review annually.
- First-time violations will include a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up performed by city staff within 30 days.
- For additional violations, a \$100.00 fee for the second violation and a \$200.00 fee for the third violation will also be included on a water bill, followed by the issuance of a citation for each subsequent violation.

Additional Permitted Uses:

- With city approval, landscape associated with new construction and/or erosion control may be watered as necessary up to 30 days (other requirements still apply) from the date of installation, certificate of occupancy, temporary certificate of occupancy, or certificate of completion. A free irrigation check-up performed by city staff is required at the end of the 30-day exemption period.
- As determined by the City of Frisco, turf grass/playgrounds/athletic fields may be watered twice per week in consideration of public safety.
- Locations using non-potable water sources such as well water or reclaimed water for irrigation purposes should use water efficiently and may irrigate without watering day restrictions. Use of all non-potable water that adversely affects public safety is prohibited. All reclaimed water use customers must follow the assigned watering schedule.
- City-registered and properly functioning smart irrigation systems may irrigate turf grass without watering day restrictions, but must be consistent with weekly watering recommendations.
- Washing or rinsing of vehicles by hose is permitted with a hose end shut-off nozzle.
- Existing swimming pools may be drained and refilled for maintenance. Pools must be drained to the sanitary sewer system for all maintenance. Water may be added to maintain pool levels.
- Hydro-seeding, hydro mulching, and sprigging is permitted.

- The operation of all ornamental fountains is permitted. We recommend conversion to a City of Frisco reuse agreement to avoid drought restrictions.
- Normal water use is permitted for all businesses including swimming pool construction, commercial car washes, pressure-washing, water injection processes, nurseries, etc.
- The use of public and private recreational water devices is permitted. However, watering flowing away property is prohibited.
- All permitted uses prohibit using water in such a manner that creates any type of water waste or flow away from property.

EMERGENCY RESPONSE PLAN

The Emergency Response Plan may be implemented at any time by the City Manager or the official designee when the City of Frisco determines that an adequate volume of water at adequate pressure can not be continuously provided for normal water demands. This plan is designed primarily for use during mechanical or electrical failures, system repairs, excessive water use, or for other critical issues.

The following actions will be taken when the Emergency Response Plan is initiated:

- The public will be notified through local media, reverse 911, and/or the City of Frisco web site.
- Wholesale customers (if any) will be notified by e-mail with a follow-up letter or fax that provides details of the reasons for initiation of the Emergency Response Plan.
- If any provisions of the Emergency Response Plan are activated or terminated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

This plan is defined by two levels of service. Service Level I can be initiated in the event that the City of Frisco water distribution system has been limited up to 75 percent of maximum capacity for an indefinite period of time or when water demands require maximum pumping capacity for more than eight hours. Service Level II can be initiated immediately when the delivery capacity of the water system is reduced to 50 percent or less.

The following restrictions are mandatory during **Emergency Service Level I** conditions:

- No outdoor watering from 10 am to 6 pm daily during Daylight Saving Time.
- A maximum of once per week outdoor watering based on the residential trash day location.
- City-registered and properly functioning smart irrigation systems may irrigate without watering day restrictions, but not more than once per week.

- Landscaping associated with new construction and/or erosion control may be watered as necessary up to 30 days from the time of installation. A city exemption is required.
- No outdoor watering of impervious surfaces.
- No outdoor watering during precipitation or at temperatures below 40 F.
- No water runoff flowing away from property.
- Prohibit hosing of paved areas, buildings, or windows. (Commercial pressure washing is allowed.)
- Prohibit operation of all non-residential ornamental fountains or other amenity impoundments to the extent they use treated water.
- Prohibit washing or rinsing of vehicles by hose except with a hose end shut-off nozzle.
- Prohibit using water in such a manner as to allow runoff or other waste.
- Foundations, turf grass, landscaping, and trees may be watered for up to two hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip or bubbler irrigation system.
- Areas approved by the city that affect public safety may be watered twice per week.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Prohibit hydro seeding, hydromulching, and sprigging.
- Prohibit the planting of cool season grasses (such as rye grass or other similar grasses), except for erosion protection and public use areas related to public safety.
- Existing swimming pools may be drained and refilled for maintenance. Pools must be drained to the sanitary sewer system for all maintenance. Water may be added to maintain pool levels.
- Prohibit the operation of all spray water parks.
- Prohibit watering of golf courses using treated water, except as needed for greens and tee boxes.
- Prohibit the procurement of water from fire hydrants from the City of Frisco water system that will be used outside the corporate city limits of the City of Frisco.

- Locations using non-potable water sources such as well water or reclaimed water for irrigation purposes should use water efficiently and may irrigate without watering day restrictions. Use of all non-potable water that adversely affects public safety is prohibited.
- All reclaimed water use customers must follow the assigned watering schedule.

Enforcement:

- Water waste can be reported by using the on-line water waste form, telephone, e-mail, or observed by city employees.
- Violations will be documented by electronic photographs and filed for review annually.
- For first-time violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system within 30 days.
- For additional violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$100.00 fee for the second violation, a \$200.00 fee for the third violation, added to the next available water bill. Additional violations will include the issuance of citations.
- The red yard sign can only be removed by City personnel.

The following restrictions are mandatory during **Emergency Service Level II** conditions:

- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons.
- Prohibit all landscape watering, except that soaker hoses, drip/bubbler systems, or hand-held hoses may be used to water landscaping, turf grass, and trees up to two hours per day, or foundations as necessary, and the minimum necessary watering to maintain public safety at parks and athletic fields. Smart irrigation systems are not exempt from this requirement.
- Prohibit golf course watering with treated water except for greens and tee boxes.
- Prohibit all other non-essential outdoor water use.

- Prohibit the permitting of private pools. Pools already permitted may be completed and filled with water. Existing private and public pools may add water to maintain pool levels but may not be drained and refilled unless maintenance is required.
- Prohibit all underground construction and trenching in the vicinity of the City of Frisco water system and water use related to any construction activity.
- Prohibit all procurement of water from Frisco fire hydrants except for public emergencies.
- Require all commercial water users to reduce water use by a percentage established by the City Manager, or the official designee.
- Locations using other water sources such as well water or reclaimed water for irrigation may irrigate as previously permitted.

Enforcement:

- Water waste can be reported by using the on-line water waste form, telephone, e-mail, or observed by city employees.
- Violations will be documented by electronic photographs and filed for review annually.
- For first-time violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$50.00 administrative fee included on the next available water bill.
- The \$50.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system within 30 days.
- For additional violations, the sprinkler system will be disconnected and identified with a RED yard sign, with a \$100.00 fee for the second violation, a \$200.00 fee for the third violation, added to the next available water bill. Additional violations will include the issuance of citations.
- The red yard sign can only be removed by City personnel.

The City of Frisco maintains the right, at any violation level, to disconnect irrigation systems and/or total water services to a customer with applicable fees and citations. Any City of Frisco employee, as designated by the Director of Public Works, may implement any provision of the enforcement process of this Water Management Plan.

The City Manager or the official designee may grant variances for existing water uses otherwise prohibited under the Water Efficiency Plan and Emergency Response Plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person or entity requesting the variance; or
- Compliance with this plan cannot be accomplished due to technical or other limitations; or
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the City Manager or official designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioners
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

The Water Management Plan Ordinance adopts and authorizes the implementation and enforcement of this plan including the designation of responsible officials as previously mentioned to implement and enforce the Water Management Plan. In addition, City of Frisco Ordinance No. 05-05-41 provides for offenses pertaining to illegal water connections, theft of water, and penalties for violations.

10. REVIEW AND UPDATE OF WATER MANAGEMENT PLAN

TCEQ requires that water conservation plans be updated prior to May 1, 2014. The plans are required to be updated every five years thereafter. The plan will be updated as required and as appropriate based on new or updated information.

11. DROUGHT CONTINGENCY AND WATER EMERGENCY RESPONSE PLAN

11.1 Introduction

The purpose of this drought contingency and water emergency response plan is as follows:

- To conserve the available water supply in times of drought and emergency.
- To maintain supplies for domestic water use, sanitation, and fire protection.
- To protect and preserve public health, welfare, and safety.
- To minimize the adverse impacts of water supply shortages.
- To minimize the adverse impacts of emergency water supply conditions.

The NTMWD supplies treated water to its Member Cities and Customers. This section was developed by NTMWD in consultation with its Member Cities. In order to adopt this plan, each NTMWD Member City and Customer will need to adopt ordinance(s) or regulation(s) implementing the plan, including the determination of fines and enforcement procedures. The plan calls for Member Cities and Customers to adopt drought stages initiated by NTMWD during a drought or water supply emergency.

A drought is defined as an extended period of time when an area receives insufficient amounts of rainfall to replenish the water supply, causing water supply sources, in this case reservoirs, to be depleted. In the absence of drought response measures, water demands tend to increase during a drought due to the need for additional outdoor irrigation. The severity of a drought depends on the degree of depletion of supplies and on the relationship of demand to available supplies. The NTMWD considers a drought to end when all of its supply reservoirs refill to the conservation storage pool.

11.2 State Requirements for Drought Contingency and Water Emergency Response Plans

This drought contingency and water emergency response plan is consistent with Texas Commission on Environmental Quality guidelines and requirements for the development of drought contingency plans for public water suppliers, contained in Title 30, Part 1, Chapter 288, Subchapter B, Rule 288.20 of the Texas Administrative Code.² This rule is contained in Appendix B.

Minimum Requirements

TCEQ's minimum requirements for drought contingency plans are addressed in the following subsections of this report:

- 288.20(a)(1)(A) – Provisions to Inform the Public and Provide Opportunity for Public Input – Section 11.3
- 288.20(a)(1)(B) – Provisions for Continuing Public Education and Information – Section 11.4

- 288.20(a)(1)(C) – Coordination with the Regional Water Planning Group – Section 11.9
- 288.20(a)(1)(D) – Criteria for Initiation and Termination of Drought Stages – Section 11.5
- 288.20(a)(1)(E) – Drought and Emergency Response Stages – Section 11.6
- 288.20(a)(1)(F) – Specific, Quantified Targets for Water Use Reductions – Section 11.6
- 288.20(a)(1)(G) – Water Supply and Demand Management Measures for Each Stage – Section 11.6
- 288.20(a)(1)(H) – Procedures for Initiation and Termination of Drought Stages – Section 11.5
- 288.20(a)(1)(I) - Procedures for Granting Variances – Section 11.7
- 288.20(a)(1)(J) - Procedures for Enforcement of Mandatory Restrictions – Section 11.8
- 288.20(a)(3) – Consultation with Wholesale Supplier – Sections 1, 11.1, 11.5, and 11.6
- 288.20(b) – Notification of Implementation of Mandatory Measures – Section 11.5
- 288.20(c) – Review and Update of Plan – Section 11.10

11.3 Provisions to Inform the Public and Opportunity for Public Input

The City of Frisco will provide opportunity for public input in the development of this drought contingency and water emergency response plan by the following means:

- Providing written notice of the proposed plan and the opportunity to comment on the plan by newspaper, posted notice, and notice on the supplier's web site (if available).
- Making the draft plan available on the supplier's web site (if available).
- Providing the draft plan to anyone requesting a copy.
- Holding a public meeting.

11.4 Provisions for Continuing Public Education and Information

The City of Frisco will inform and educate the public about the drought contingency and water emergency response plan by the following means:

- Preparing a bulletin describing the plan and making it available at city hall and other appropriate locations.
- Making the plan available to the public through the supplier's web site (if available).
- Including information about the drought contingency and water emergency response plan on the supplier's web site (if available).

- Notifying local organizations, schools, and civic groups that staff are available to make presentations on the drought contingency and water emergency response section of the Water Management Plan (usually in conjunction with presentations on water conservation programs).

At any time that the drought contingency and water emergency response plan is activated or the drought stage or water emergency response stage changes, the City of Frisco will notify local media of the issues, the drought response stage or water emergency response stage (if applicable), and the specific actions required of the public. The information will also be publicized on the supplier's web site (if available). Billing inserts will also be used as appropriate.

11.5 Initiation and Termination of Drought or Water Emergency Response Stages

Initiation of a Drought or Water Emergency Response Stage

The City Manager or the official designee may order the implementation of a drought or water emergency response stage when one or more of the trigger conditions for that stage is met. The following actions will be taken when a drought or water emergency response stage is initiated:

- The public will be notified through local media and the City of Frisco web site (if available)
- Wholesale customers (if any) and the NTMWD will be notified by e-mail with a follow-up letter or fax that provides details of the reasons for initiation of the drought/water emergency response stage.
- If any mandatory provisions of the drought contingency and water emergency response plan are activated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

Drought contingency/water emergency response stages imposed by NTMWD action must be initiated by Member Cities and Customers. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, the anticipation of replenished water supplies, or the anticipation that additional facilities will become available to meet needs. The reason for this decision should be documented.

Termination of a Drought/Water Emergency Response Stage

The City Manager or the official designee may order the termination of a drought or water emergency response stage when the conditions for termination are met or at their discretion. The following actions will be taken when a drought or emergency response stage is terminated:

- The public will be notified through local media and the City of Frisco web site (if available).
- Wholesale customers (if any) and the NTMWD will be notified by e-mail with a follow-up letter or fax.

- If any mandatory provisions of the drought contingency and water emergency response plan that have been activated are terminated, the City of Frisco will notify the Executive Director of the TCEQ and the Executive Director of the NTMWD within 5 business days.

The City Manager or the official designee may decide not to order the termination of a drought or water emergency response stage even though the conditions for termination of the stage are met. Factors which could influence such a decision include, but are not limited to, the time of the year, weather conditions, or the anticipation of potential changed conditions that warrant the continuation of the drought stage. The reason for this decision should be documented.

11.6 Drought Contingency and Water Emergency Response Stages and Measures

Stage 1

Initiation and Termination Conditions for Stage 1

- The NTMWD has initiated Stage 1, which may be initiated due to one or more of the following:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 1.
 - Water demand is projected to approach the limit of the permitted supply.
 - The storage in Lavon Lake is less than 65 percent of the total conservation pool capacity.
 - NTMWD's storage in Jim Chapman Lake is less than 65 percent of NTMWD's total conservation pool capacity.
 - The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Mild drought.
 - NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability in the next 6 months.
 - NTMWD water demand exceeds 90 percent of the amount that can be delivered to customers for three consecutive days.
 - Water demand for all or part of NTMWD's delivery system approaches delivery capacity because delivery capacity is inadequate.
 - NTMWD's supply source becomes contaminated.
 - NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.

Stage 1 may terminate when NTMWD terminates its Stage 1 condition or when the circumstances that caused the initiation of Stage 1 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 1

Stage 1 is intended to raise public awareness of potential drought or water emergency problems. The goal for water use reduction under Stage 1 is a two percent reduction in the amount of water produced by NTMWD. The implementation and enforcement of the Water Efficiency Plan by the City of Frisco will meet or exceed the requirements of a NTMWD Stage 1 condition. The City Manager or the official designee may also order the implementation of any of the actions listed below, as deemed necessary:

- Notify wholesale customers of actions being taken and request implementation of similar procedures.
- Request voluntary reductions in water use by the public and wholesale customers.
- Increase public education efforts on ways to reduce water use.
- Review the problems that caused the initiation of Stage 1.
- Intensify efforts on leak detection and repair.
- Reduce non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Notify major water users and work with them to achieve voluntary water use reductions.
- Reduce city government water use for landscape irrigation.
- Ask the public to follow voluntary landscape water schedules.

Stage 2

Initiation and Termination Conditions for Stage 2

The NTMWD has initiated Stage 2, which may be initiated due to one or more of the following:

- The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 2.
- Water demand is projected to approach the limit of the permitted supply.
- The storage in Lavon Lake is less than 55 percent of the total conservation pool capacity.
- NTMWD's storage in Jim Chapman Lake is less than 55 percent of NTMWD's total conservation pool capacity.
- The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Mild drought.
- NTMWD has concern that Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source may be limited in availability in the next 3 months.
- NTMWD water demand exceeds 95 percent of the amount that can be delivered to customers for three consecutive days.
- NTMWD water demand for all or part of the delivery system equals delivery capacity because delivery capacity is inadequate.
- NTMWD's supply source becomes contaminated.
- NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.

Stage 2 may terminate when NTMWD terminates its Stage 2 condition or when the circumstances that caused the initiation of Stage 2 no longer prevail.

Goal for Use Reduction and Actions Available under Stage 2

The goal for water use reduction under Stage 2 is a five percent reduction in the amount of water produced by NTMWD. Actions available in the Water Efficiency Plan will meet or exceed the requirements during a NTMWD Stage 2 condition. The City Manager or the official designee may order the implementation of any of the actions listed on the following page, as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on customers. The City of Frisco must notify TCEQ and NTMWD within five business days if these measures are implemented:

- Continue or initiate any actions available under Stage 1.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Initiate engineering studies to evaluate alternatives should conditions worsen.

- Further accelerate public education efforts on ways to reduce water use.
- **Requires Notification to TCEQ** – Initiate mandatory or continue water use restrictions as follows:
 - Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces is allowed.)
 - Prohibit operation of all non-residential ornamental fountains or other amenity impoundments to the extent they use treated water.
 - Prohibit washing or rinsing of vehicles by hose except with a hose end cutoff nozzle.
 - Prohibit using water in such a manner as to allow runoff or other waste
- **Requires Notification to TCEQ** – Prohibit landscape and lawn irrigation from 10 AM to 6 PM during Daylight Saving Time of each year.
- **Requires Notification to TCEQ** – Prohibit watering of cool season grasses (such as rye grass or other similar grasses) that intensify water requirements except for erosion control and public safety.
- **Requires Notification to TCEQ** – Limit landscape watering with sprinklers or irrigation systems to no more than two days per week. An exception is allowed for landscape associated with new construction that may be watered as necessary for 30 days from the date of installation. An exemption is also allowed for registered and properly functioning smart controller irrigation systems and drip irrigation systems, which do not have restrictions for specific days of the week for operation but limited to no more than twice per week.

Require all City of Frisco water users to comply with the following two-day per week water use schedule based on location within the residential trash collection zones as necessary for automatic and hose-end sprinkler systems during daylight savings time:

<u>Residential Trash Day Zone Watering Day</u>	<u>Additional Watering Day</u>
Monday	Thursday
Tuesday	Saturday
Wednesday	Saturday
Thursday	Sunday
Friday	Tuesday

- Require all City of Frisco water users to comply with the following restrictions during Central Standard Time of each year:
 - Use soaker hoses to maintain foundation moisture on any day; and
 - Irrigate landscaping by hand using hand-held hoses on any day; and

- Operate sprinkler system a maximum of once each week if necessary based on residential trash day location.
- Allow soaker hoses for foundation moisture, drip/bubbler systems, and hand-watering at any time.
- Restrict non-essential city government water use. (Examples include street cleaning, vehicle washing, operation of ornamental fountains, etc.)
- Encourage the public to wait until the current drought or emergency situation has passed before establishing new landscaping.
- Initiate a rate surcharge of up to 100% for all residential and irrigation customers over 25,000 gallons per billing cycle or the surcharge provided by the NTMWD subject to council approval.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Allow normal water use for all businesses including swimming pool construction and maintenance, commercial car washes, nurseries, etc.

Stage 3

Initiation and Termination Conditions for Stage 3

- The NTMWD has initiated Stage 3, which may be initiated due to one or more of the following:
 - The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 3.
 - Water demand is projected to approach or exceed the limit of the permitted supply.
 - The storage in Lavon Lake is less than 45 percent of the total conservation pool capacity.
 - NTMWD's storage in Jim Chapman Lake is less than 45 percent of NTMWD's total conservation pool capacity.
 - The Sabine River Authority (SRA) has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a Moderate drought. (Measures required by SRA under a Moderate drought designation are similar to those under NTMWD's Stage 3.)
 - The supply from Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source has become limited in availability.
 - NTMWD water demand exceeds 98 percent of the amount that can be delivered to customers for three consecutive days.
 - NTMWD water demand for all or part of the delivery system exceeds delivery capacity because delivery capacity is inadequate.
 - NTMWD's supply source becomes contaminated.
 - NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.

Stage 3 may terminate when NTMWD terminates its Stage 3 condition or when the circumstances that caused the initiation of Stage 3 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 3

The goal for water use reduction under Stage 3 is a reduction of ten percent in the amount of water obtained from NTMWD. If circumstances warrant or if required by NTMWD, the City Manager, or the official designee can set a goal for a greater water use reduction.

The City Manager or the official designee must implement any action(s) required by NTMWD. In addition, the City Manager, or the official designee may order the implementation of any of the actions listed below, as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on customers. The supplier must notify TCEQ and NTMWD within five business days if these measures are implemented:

- Continue or initiate any actions available under Stages 1 and 2.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – Initiate mandatory water use restrictions as follows:
 - Prohibit hosing of paved areas, buildings, or windows. (Pressure washing of impervious surfaces is allowed.)
 - Prohibit operation of all ornamental fountains or other amenity impoundments to the extent they use treated water.
 - Prohibit washing or rinsing of vehicles by hose except with a hose end cutoff nozzle.
 - Prohibit using water in such a manner as to allow runoff or other waste.
- **Requires Notification to TCEQ** – Limit landscape watering at each service address to once every seven days based on location within the residential trash collection zones. See Exhibit B, Weekly Watering Day Location Map. Exceptions are as follows:
 - Foundations, new landscaping, new plantings (first year) of shrubs, and trees may be watered for up to 2 hours on any day by a hand-held hose, a soaker hose, or a dedicated zone using a drip/bubbler irrigation system.
 - Landscape associated with new construction that may be watered as necessary for 30 days from the date of the certificate of occupancy, temporary certificate of occupancy, or certificate of completion.
 - Areas associated with public safety as determined by the City of Frisco may be watered twice per week.
 - Locations using other water sources such as well water, water reuse, or reclaimed water for irrigation may irrigate without watering day restrictions.
 - Registered and properly functioning smart irrigation systems may irrigate without watering day restrictions, but not more than once per week.

The City of Frisco mandatory seven day watering schedule is as follows:

<u>Residential Trash Day Zone Watering Day</u>	<u>Additional Watering Day</u>
Monday	None
Tuesday	None
Wednesday	None
Thursday	None
Friday	None

- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- If NTMWD has imposed a reduction in water available to member cities and customers, impose the same percent reduction on wholesale customers.
- **Requires Notification to TCEQ** – Prohibit hydro seeding, hydromulching, over-seeding, and sprigging.
- **Requires Notification to TCEQ** – Existing swimming pools may not be drained and refilled (except for structural or chemical maintenance). Pools must be drained to the sanitary sewer system for approved maintenance.
- **Requires Notification to TCEQ** – Prohibit the operation of all spray water parks.
- **Requires Notification to TCEQ** – If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on wholesale customers.
- **Requires Notification to TCEQ** – Prohibit watering of golf courses using treated water, except as needed to keep greens and tee boxes alive.
- **Requires Notification to TCEQ** – Prohibit the procurement of water from fire hydrants from the City of Frisco water system that will be used outside the corporate city limits of the City of Frisco.

Stage 4

Initiation and Termination Conditions for Stage 4

The NTMWD has initiated Stage 4, which may be initiated due to one or more of the following:

- The NTMWD Executive Director, with the concurrence of the NTMWD Board of Directors, finds that conditions warrant the declaration of Stage 4.
- Water demand is projected to approach or exceed the limit of the permitted supply.
- The storage in Lavon Lake is less than 35 percent of the total conservation pool capacity.
- NTMWD's storage in Jim Chapman Lake is less than 35 percent of NTMWD's total conservation pool capacity.
- The Sabine River Authority has indicated that its Upper Basin water supplies used by NTMWD (Lake Tawakoni and/or Lake Fork) are in a severe drought or Emergency.
- The supply from Lake Texoma, the East Fork Raw Water Supply Project, or some other NTMWD source has become severely limited in availability.
- NTMWD water demand exceeds the amount that can be delivered to customers.
- NTMWD water demand for all or part of the delivery system seriously exceeds delivery capacity because the delivery capacity is inadequate.
- NTMWD's supply source becomes contaminated.
- NTMWD's water supply system is unable to deliver water due to the failure or damage of major water system components.
- NTMWD has imposed a reduction in water available to the City of Frisco.

Stage 4 may terminate when NTMWD terminates its Stage 4 condition or when the circumstances that caused the initiation of Stage 4 no longer prevail.

Goals for Use Reduction and Actions Available under Stage 4

The goal for water use reduction under Stage 4 is a reduction of whatever amount is necessary in the amount of water obtained from NTMWD. If circumstances warrant or if required by NTMWD, the City Manager or the official designee can set a goal for a greater water use reduction.

The City Manager or the official designee must implement any action(s) required by NTMWD. In addition, the City Manager or the official designee may order the implementation of any of the actions listed below, as deemed necessary. Measures described as "requires notification to TCEQ" impose mandatory requirements on member cities and customers. The supplier must notify TCEQ and NTMWD within five business days if these measures are implemented.

- Continue or initiate any actions available under Stages 1, 2, and 3.
- Notify wholesale customers of actions being taken and request them to implement similar procedures.
- Implement viable alternative water supply strategies.
- **Requires Notification to TCEQ** – Prohibit the irrigation of new landscaping.
- **Requires Notification to TCEQ** – Prohibit washing of vehicles except as necessary for health, sanitation, or safety reasons.
- **Requires Notification to TCEQ** - Prohibit all landscape watering, except that soaker hoses, drip/bubbler systems, or hand-held hoses may be used to water trees up to two hours per week or foundations as necessary, and the minimum necessary watering to maintain public safety at parks and athletic fields. Smart irrigation systems are not exempt from this requirement.
- **Requires Notification to TCEQ** – Prohibit golf course watering with treated water except for greens and tee boxes.
- **Requires Notification to TCEQ** – Prohibit the permitting of private pools. Pools already permitted may be completed and filled with water. Existing private and public pools may add water to maintain pool levels but may not be drained and refilled.
- **Requires Notification to TCEQ** – Prohibit all underground construction and trenching in the vicinity of the City of Frisco water system and water use related to any construction activity.
- **Requires Notification to TCEQ** – Require all commercial water users to reduce water use by a percentage established by the City Manager, or the official designee.
- **Requires Notification to TCEQ** – If NTMWD has imposed a reduction in water available to Member Cities and Customers, impose the same percent reduction on wholesale customers.

11.7 Procedures for Granting Variances to the Plan

The City Manager or the official designee may grant variances for existing water uses otherwise prohibited under this drought contingency and water emergency response plan if one or more of the following conditions are met:

- Failure to grant such a variance would cause an emergency condition adversely affecting health, sanitation, or fire safety for the public or the person or entity requesting the variance.
- Compliance with this plan cannot be accomplished due to technical or other limitations.
- Alternative methods that achieve the same level of reduction in water use can be implemented.

Variances shall be granted or denied at the discretion of the City Manager or the official designee. All petitions for variances should be in writing and should include the following information:

- Name and address of the petitioners
- Purpose of water use
- Specific provisions from which relief is requested
- Detailed statement of the adverse effect of the provision from which relief is requested
- Description of the relief requested
- Period of time for which the variance is sought
- Alternative measures that will be taken to reduce water use
- Other pertinent information.

11.8 Procedures for Enforcing Mandatory Water Use Restrictions

The procedures for enforcing the mandatory water use restrictions for drought contingency or a NTMWD emergency response are as follows:

Stage 1:

- Violations can be reported by telephone or e-mail, and observed by Public Works employees.
- Violations will be documented by electronic photographs and filed for review.
- First-time violations will receive a door-hanger with a \$25.00 administrative fee included on the next available water bill.
- The \$25.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system,
- For additional violations, the sprinkler system will be disconnected with a RED yard sign, a \$50.00 fee for the second violation, a \$75.00 fee for the third violation including the issuance of a citation.

Stage 2:

- Violations can be reported by telephone or e-mail, and observed by Public Works employees.
- Violations will be documented by electronic photographs and filed for review.
- First-time violations will receive a door-hanger with a \$25.00 administrative fee included on the next available water bill.

- The \$25.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign, a \$50.00 fee for the second violation, a \$75.00 fee for the third violation including the issuance of a citation

Stage 3:

- Violations can be reported by telephone or e-mail, and observed by Public Works employees available seven day a week,
- Violations will be documented by electronic photographs and filed for review.
- For first-time violations, the sprinkler system will be disconnected with a RED yard sign, and a \$25.00 administrative fee included on the next available water bill.
- The \$25.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign, a \$50.00 fee for the second violation, a \$75.00 fee for the third violation including the issuance of a citation

Stage 4:

- Violations can be reported by telephone or e-mail, and observed by Public Works employees available seven day a week.
- Violations will be documented by electronic photographs and filed for review.
- For first-time violations, the sprinkler system will be disconnected with a RED yard sign, and a \$25.00 administrative fee included on the next available water bill.
- The \$25.00 administrative fee will be waived or credited after the completion of a free irrigation check-up of the violating system.
- For additional violations, the sprinkler system will be disconnected with a RED yard sign, a \$50.00 fee for the second violation, a \$75.00 fee for the third violation including the issuance of a citation.

The City of Frisco maintains the right, at any violation level, to disconnect irrigation systems and/or total water services to a customer for public safety issues (includes icing and traffic hazards) with reconnection fees and possible monetary penalties. Any City of Frisco employee, as designated by the Director of Public Works, may implement any provision of the enforcement process of this Water Management Plan.

11.9 Coordination with the Regional Water Planning Groups

The City of Frisco will send a copy of the ordinance or other regulation(s) implementing this plan to NTMWD and the chair of the Region C planning group.

11.10 Review and Update of Drought Contingency and Water Emergency Response Plan

As required by TCEQ rules, the City of Frisco must review this plan every five years. The plan will be updated as appropriate based on new or updated information.